



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,433	08/08/2001	Jun Koyama	12732-064001	9952

26171 7590 01/24/2006

FISH & RICHARDSON P.C.  
P.O. BOX 1022  
MINNEAPOLIS, MN 55440-1022

EXAMINER

MENGISTU, AMARE

ART UNIT PAPER NUMBER

2673

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/923,433

Applicant(s)

KOYAMA ET AL.

Examiner

Amare Mengistu

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5,8,10,11,33,37,47,48,53,54,70-72,74 and 75 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5,8,10,11,33,37,47,48,53,54,70-72,74 and 75 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>Jul 19, 2005</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections – 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5,8,33,47-48,53-54,70-72,74-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Okumura et al (5,945,972)**.

3. As to claims 5,8,47,48,53,54,70, **Okumura et al (hereinafter Okumura )** discloses a liquid crystal display comprising pixels (fig.17 (CLC), fig.27 (CEL)), wherein each of said pixels has n x m memory circuit (see, figs. 3, 5,17), n gate signal lines (fig. 17 (352,354)), n TFTs having gate electrodes (fig. 17 (SW1, SW2)), wherein nTFTs has a source region and a drain region (figs.14, 17 (SW1, SW2)) wherein each of said gate electrodes is connected to a corresponding one of said n gate signal line (see, fig.17 (SW1,SW2)). It is also obvious to one skill in the art to recognize that

in other embodiment of **Okumura** discloses that the pixel includes a D/A converter for converting n bit digital signals stored in said n x m memory circuits into analog signals (fig. 27 (534)), wherein said each of said pixels stores digital signals corresponding to m frames in the n x m memory circuits, the output terminal of said D/A converter is connected to LC element (see, fig.27 (531,532), (CEL)) in order to convert the digital signal into an analog signal.

As to claims 33,37,71-72, **Okumura** discloses that said memory circuit and said D/A converter are arranged so as to overlap a gate signal line (see, fig.27).

As to claims 47,48, 74, Since the LCD is formed over a glass substrate, it would have been obvious for **Okumura** memory circuit also to be formed over a glass substrates.

4. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Okumura ET la.** (5,945,972) In view of **Nagao** (6,380,876).

As to claims 10 and 11, **Okumura** discloses a liquid crystal display with a signal line driver, but has failed to teach the liquid crystal display source signal driving circuit includes shift registers, first latch circuit, second latch circuit, and switches. **Nagao** is cited to teach that it is well known for LCD to have a source signal line driving circuit (fig.3 (301)) including shift registers (fig.3 (301-1), first latch circuits (fig.3 (301-2)), second latch circuits (fig.3 (301-3)) and switches (fig.3 (301-4)), said first latch circuits

Art Unit: 2673

hold n bit digital signal upon receiving sampling pulses from said shift registers unit said n bit digital signals are transferred to said second latch circuits, and said switches select said n bit digital signals that have been transferred to said second latch circuits one bit at a time to input said selected signals into source signal line (see,fig.3 (301-1) to(301-4)).

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to have been motivated to incorporate the LCD driving circuit of **Nagao** into the LCD device of **Okumura**, since this will provide a liquid crystal display device having a circuit comprised of only a small number of elements, and without increased power consumption and also helping ensure a LCD panel picture frame with a narrow width.

### ***Response to Arguments***

5. Applicant's arguments filed July 19,2005 have been fully considered but they are not persuasive. Applicant argues that **Okumura** et al does not teach that the n TFTs gate electrodes are not connected to the source signal line. However, the examiner strongly disagrees with the applicant's assertion because fig. 14 of **Okumura** clearly shows that the n TFTs (SW1) gate electrodes are connected to the source signal lines (301).

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amare Mengistu whose telephone number is (571) 272-7674. The examiner can normally be reached on M-F,T-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/923,433  
Art Unit: 2673

Page 6

  
Amare Mengistu  
Primary Examiner  
Art Unit 2673

AM  
Jan. 20, 2006